ABSTRACT

A novel mixing apparatus and process for mixing at least two fluids are disclosed. Excellent mixing and superior pressure drop characteristics are achieved in a device comprising at least two supply channels to feed a mixing chamber and create a vortex. The alignment of the supply channels is such that fluids are introduced into the chamber at both tangential and radial directions. In the case of gas/liquid mixing, particularly advantageous is the injection of the liquid stream tangentially and the gas stream radially. When two liquid streams are mixed, it is desirable to distribute them into fine, interdigitated channels prior to introduction into a supply channel and finally into the chamber. The mixed stream is generally withdrawn from the center of the swirling vortex and in a direction perpendicular to the plane of the vortex.